

# Total Costs Workbook

August 24 2018 Template

## Overview:

This workbook was developed by the Environmental Finance Center (EFC) at California State University, Sacramento to facilitate the creation of an asset management plan by a USEPA grant.

## How to use this Workbook:

The Total Costs Workbook can be used by municipalities to compute a complete, annual sum of costs for per

## Instructions

**Instructions are listed below for completing the worksheets and compiling the total costs for the existing**

The estimated costs for the identified LOS can be copied from the Level of Service Workbook by copying all v

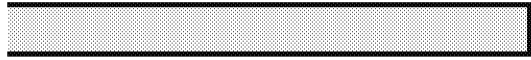
Estimated costs for permit compliance can be similarly copied from the Permitting Costs Workbook or simpl

Estimated costs for future buildouts do not have a current template in the toolkit, as these are likely to be as

assessed time period.

amento (Sacramento State) for  
an for stormwater infrastructure. Funded

mit compliance, existing system



**iting system and future buildouts.**

values in the "Baseline LOS" tab and pasting

y recorded directly into the tabs associated

essed and financed in many different

| Categories             | 2018                 | 2019               | 2020               |
|------------------------|----------------------|--------------------|--------------------|
|                        | Current Annual Costs | Yr 1 Costs         | Yr 2 Costs         |
| O&M of Existing Assets | \$126,862            | \$130,668          | \$134,588          |
| Permit Compliance      | \$1,049,398          | \$1,080,880        | \$1,113,306        |
| Future Buildouts       | \$3,225,000          | \$3,644,000        | \$4,062,000        |
| <b>TOTAL</b>           | <b>\$4,401,260</b>   | <b>\$4,855,548</b> | <b>\$5,309,894</b> |

Yr 2 costs and beyond are based on assumed inflation factor:

3%

Assumes Current year is:

2018

| <b>2021</b>         | <b>2022</b>         | <b>2023</b>         | <b>2024</b>         | <b>2025</b>         | <b>2026</b>         | <b>2027</b>         | <b>2028</b>         |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>Yr 3 Costs</b>   | <b>Yr 4 Costs</b>   | <b>Yr 5 Costs</b>   | <b>Yr 6 Costs</b>   | <b>Yr 7 Costs</b>   | <b>Yr 8 Costs</b>   | <b>Yr 9 Costs</b>   | <b>Yr 10 Costs</b>  |
| \$138,626           | \$142,784           | \$147,068           | \$151,480           | \$156,024           | \$160,705           | \$165,526           | \$170,492           |
| \$1,146,705         | \$1,181,106         | \$1,216,540         | \$1,253,036         | \$1,290,627         | \$1,329,346         | \$1,369,226         | \$1,410,303         |
| \$17,538,000        | \$19,119,000        | \$20,701,000        | \$38,158,000        | \$39,646,000        | \$41,134,000        | \$14,801,000        | \$14,853,000        |
| <b>\$18,823,331</b> | <b>\$20,442,891</b> | <b>\$22,064,607</b> | <b>\$39,562,516</b> | <b>\$41,092,651</b> | <b>\$42,624,051</b> | <b>\$16,335,752</b> | <b>\$16,433,795</b> |

| 2029         | 2030         | 2031         | 2032         | 2033         | 2034         | 2035         | 2036         |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Yr 11 Costs  | Yr 12 Costs  | Yr 13 Costs  | Yr 14 Costs  | Yr 15 Costs  | Yr 16 Costs  | Yr 17 Costs  | Yr 18 Costs  |
| \$175,607    | \$180,875    | \$186,301    | \$191,890    | \$197,647    | \$203,576    | \$209,684    | \$215,974    |
| \$1,452,612  | \$1,496,190  | \$1,541,076  | \$1,587,308  | \$1,634,928  | \$1,683,975  | \$1,734,495  | \$1,786,529  |
| \$14,904,000 | \$14,956,000 | \$15,008,000 | \$15,060,000 | \$15,112,000 | \$15,163,000 | \$15,215,000 | \$15,267,000 |
| \$16,532,219 | \$16,633,065 | \$16,735,377 | \$16,839,198 | \$16,944,574 | \$17,050,552 | \$17,159,178 | \$17,269,504 |

| 2037        | 2038        |
|-------------|-------------|
| Yr 19 Costs | Yr 20 Costs |
| \$222,453   | \$229,127   |
| \$1,840,125 | \$1,895,329 |
| \$0         | \$0         |
| \$2,062,579 | \$2,124,456 |

**Inputs**

Inflation Rate     3%

Current Year     2018

## COMPARING COSTS FOR VARIOUS LOS's

|                        | 2018               | 2019       | 2020       | 2021       |
|------------------------|--------------------|------------|------------|------------|
|                        | Current Annual     |            |            |            |
| Level of Service (LOS) | Costs <sup>2</sup> | Yr 1 Costs | Yr 2 Costs | Yr 3 Costs |
| Baseline LOS           | \$126,862          | \$130,668  | \$134,588  | \$138,626  |
| Improved LOS           | \$0                | \$0        | \$0        | \$0        |
| Advanced LOS           | \$0                | \$0        | \$0        | \$0        |

### Selected Level of Service and Additional O&M

|   |                  |                  |                  |                  |
|---|------------------|------------------|------------------|------------------|
| Selected LOS (from above)                   | \$126,862        | \$130,668        | \$134,588        | \$138,626        |
| Additional O&M Not Included in LOS          |                  |                  |                  |                  |
| <b>SUBTOTAL: O&amp;M of Existing Assets</b> | <b>\$126,862</b> | <b>\$130,668</b> | <b>\$134,588</b> | <b>\$138,626</b> |

Yr 2 costs and beyond are based on assumed inflation factor:

3%

Assumes Current year is:

2018



| 2022              | 2023              | 2024              | 2025              | 2026              | 2027              | 2028               | 2029               | 2030               |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|
| <b>Yr 4 Costs</b> | <b>Yr 5 Costs</b> | <b>Yr 6 Costs</b> | <b>Yr 7 Costs</b> | <b>Yr 8 Costs</b> | <b>Yr 9 Costs</b> | <b>Yr 10 Costs</b> | <b>Yr 11 Costs</b> | <b>Yr 12 Costs</b> |
| \$142,784         | \$147,068         | \$151,480         | \$156,024         | \$160,705         | \$165,526         | \$170,492          | \$175,607          | \$180,875          |
| \$0               | \$0               | \$0               | \$0               | \$0               | \$0               | \$0                | \$0                | \$0                |
| \$0               | \$0               | \$0               | \$0               | \$0               | \$0               | \$0                | \$0                | \$0                |
| \$142,784         | \$147,068         | \$151,480         | \$156,024         | \$160,705         | \$165,526         | \$170,492          | \$175,607          | \$180,875          |
| <b>\$142,784</b>  | <b>\$147,068</b>  | <b>\$151,480</b>  | <b>\$156,024</b>  | <b>\$160,705</b>  | <b>\$165,526</b>  | <b>\$170,492</b>   | <b>\$175,607</b>   | <b>\$180,875</b>   |

| 2031        | 2032        | 2033        | 2034        | 2035        | 2036        | 2037        | 2038        |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Yr 13 Costs | Yr 14 Costs | Yr 15 Costs | Yr 16 Costs | Yr 17 Costs | Yr 18 Costs | Yr 19 Costs | Yr 20 Costs |
| \$186,301   | \$191,890   | \$197,647   | \$203,576   | \$209,684   | \$215,974   | \$222,453   | \$229,127   |
| \$0         | \$0         | \$0         | \$0         | \$0         | \$0         | \$0         | \$0         |
| \$0         | \$0         | \$0         | \$0         | \$0         | \$0         | \$0         | \$0         |
| \$186,301   | \$191,890   | \$197,647   | \$203,576   | \$209,684   | \$215,974   | \$222,453   | \$229,127   |
| \$186,301   | \$191,890   | \$197,647   | \$203,576   | \$209,684   | \$215,974   | \$222,453   | \$229,127   |

Baseline LOS

| Asset Type  | Inspection  |              | Corrective Maintenance   |              |
|---|---|--------------|--------------------------|--------------|
|   | Activities & Frequencies  | Cost Summary | Activities & Frequencies | Cost Summary |
| Gravity Mains   | Visually Inspect 25 ft weekly;<br>TV 25 additional 25 ft<br>twice/month | \$ 26,452    | Hydro-jet 250 ft monthly | \$ 13,476    |
| Force Mains   |   |              |                          |              |
| Catch Basins  |   |              |                          |              |
| Outfalls  |   |              |                          |              |
| Detention Basins  |   |              |                          |              |
| Culverts  |   |              |                          |              |
| Total   |   | \$ 26,452    |                          | \$ 13,476    |
| O&M (inspection, corrective and preventative maintenance) |   |              |                          |              |
| Capital Renewal (system renewal)                          |   |              |                          |              |

Improved LOS

| Asset Type  | Inspection               |              | Corrective Maintenance   |              |
|---|--------------------------|--------------|--------------------------|--------------|
|   | Activities & Frequencies | Cost Summary | Activities & Frequencies | Cost Summary |
| Gravity Mains   |                          |              |                          |              |
| Force Mains   |                          |              |                          |              |
| Catch Basins  |                          |              |                          |              |
| Outfalls  |                          |              |                          |              |
| Detention Basins  |                          |              |                          |              |
| Culverts  |                          |              |                          |              |
| Total   |                          | \$ -         |                          | \$ -         |
| O&M (inspection, corrective and preventative maintenance) |                          |              |                          |              |
| Capital Renewal (system renewal)                          |                          |              |                          |              |

Advanced LOS

| Asset Type  | Inspection               |              | Corrective Maintenance   |              |
|---|--------------------------|--------------|--------------------------|--------------|
|   | Activities & Frequencies | Cost Summary | Activities & Frequencies | Cost Summary |
| Gravity Mains   |                          |              |                          |              |
| Force Mains   |                          |              |                          |              |
| Catch Basins  |                          |              |                          |              |
| Outfalls  |                          |              |                          |              |
| Detention Basins  |                          |              |                          |              |
| Culverts  |                          |              |                          |              |
| Total   |                          | \$ -         |                          | \$ -         |
| O&M (inspection, corrective and preventative maintenance) |                          |              |                          |              |
| Capital Renewal (system renewal)                          |                          |              |                          |              |

| Preventative Maintenance |              | Replacement              |              | Total Cost |
|--------------------------|--------------|--------------------------|--------------|------------|
| Activities & Frequencies | Cost Summary | Activities & Frequencies | Cost Summary |            |
| Repair 10 ft quarterly   | \$ 69,870    | Replace 100 ft annually  | \$ 17,064    | \$126,862  |
|                          |              |                          |              | \$ -       |
|                          |              |                          |              | \$ -       |
|                          |              |                          |              | \$ -       |
|                          |              |                          |              | \$ -       |
|                          |              |                          |              | \$ -       |
|                          | \$ 69,870    |                          | \$ 17,064    | \$126,862  |
|                          |              |                          |              | \$109,798  |
|                          |              |                          |              | \$ 17,064  |

| Preventative Maintenance |              | Replacement              |              | Total Cost |
|--------------------------|--------------|--------------------------|--------------|------------|
| Activities & Frequencies | Cost Summary | Activities & Frequencies | Cost Summary |            |
|                          |              |                          |              | \$ -       |
|                          |              |                          |              | \$ -       |
|                          |              |                          |              | \$ -       |
|                          |              |                          |              | \$ -       |
|                          |              |                          |              | \$ -       |
|                          |              |                          |              | \$ -       |
|                          | \$ -         |                          | \$ -         | \$ -       |
|                          |              |                          |              | \$ -       |
|                          |              |                          |              | \$ -       |

| Preventative Maintenance |              | Replacement              |              | Total |
|--------------------------|--------------|--------------------------|--------------|-------|
| Activities & Frequencies | Cost Summary | Activities & Frequencies | Cost Summary |       |
|                          |              |                          |              | \$ -  |
|                          |              |                          |              | \$ -  |
|                          |              |                          |              | \$ -  |
|                          |              |                          |              | \$ -  |
|                          |              |                          |              | \$ -  |
|                          |              |                          |              | \$ -  |
|                          | \$ -         |                          | \$ -         | \$ -  |
|                          |              |                          |              | \$ -  |
|                          |              |                          |              | \$ -  |

## Baseline LOS

| Asset Type  | Inspection  |  | Corrective Maintenance                                       |              |
|---|---|--|--|--------------|
|   | Activities & Frequencies  | Cost Summary                                     | Activities & Frequencies                                     | Cost Summary |
| Gravity Mains   |   | \$ -   | Respond to failures and complaints for all sewer components. | \$ 200,000   |
| Force Mains   | Visual inspection every 2 weeks during pump station inspection. | Cost is associated with pump station inspections |  | \$ -         |
| Catch Basins  |   | \$ -   | Clean 2500 annually and perform corrective maintenance.      | \$ 600,000   |
| Outfalls  |   | \$ -   |  | \$ -         |
| Detention Basins  |   | \$ -   |  | \$ -         |
| Culverts  |   | \$ -   | Clean debris, corrective maintenance.                        | \$ 20,000    |
| Total   |   | \$ -   |  | \$ 820,000   |
| O&M (inspection, corrective and preventative maintenance) |   |  |  |              |
| Capital Renewal (system renewal)                          |   |  |  |              |

## LOS "C" (Improved)

| Asset Type       | Inspection   |              | Corrective Maintenance  |              |
|------------------|--|--------------|---|--------------|
|                  | Activities & Frequencies   | Cost Summary | Activities & Frequencies  | Cost Summary |
| Gravity Mains    | PACP CCTV inspect pipes greater than 75 years old over 10-year period.                                       | \$ 110,000   | Replace 15% of assets that have reached end of EEL over 10 years. | \$ 299,000   |
| Force Mains      | Visual inspection every 2 weeks during pump station inspection. PACP CCTV inspect every 15 years.            | \$ 200       |   |              |
| Catch Basins     | Clean and inspect 25% annually (Approx. 4264). Record and monitor debris levels for cleaning prioritization. | \$ 639,000   | Clean 2500 annually and perform corrective maintenance.           | \$ 24,000    |
| Outfalls         | Inspect all outfall points every 5 years per MS4 requirements.   | \$ 28,000    | Replace top 10% by POF each cycle.                                | \$ 66,000    |
| Detention Basins | Complete site inspection 3 times annually including routine maintenance.                                     | \$ 6,500     |   |              |
| Culverts         | CCTV/walk/inspect 50% of culverts annually.  | \$ 9,700     | Replace/rehabilitate top 5% by POF.                               |              |

| Preventative Maintenance |              | Replacement              |              | Total Cost   |
|--------------------------|--------------|--------------------------|--------------|--------------|
| Activities & Frequencies | Cost Summary | Activities & Frequencies | Cost Summary |              |
|                          | \$ -         |                          | \$ 1,537,000 | \$ 1,737,000 |
|                          | \$ -         |                          |              |              |
|                          | \$ -         |                          |              | \$ 600,000   |
|                          | \$ -         |                          |              |              |
|                          | \$ -         |                          |              |              |
|                          | \$ -         |                          |              | \$ 20,000    |
|                          | \$ -         |                          | \$ 1,537,000 | \$ 2,357,000 |
|                          |              |                          |              | \$ 820,000   |
|                          |              |                          |              | \$ 1,537,000 |

| Preventative Maintenance  |              | Replacement  |              | Total Cost   |
|---|--------------|--|--------------|--------------|
| Activities & Frequencies  | Cost Summary | Activities & Frequencies   | Cost Summary |              |
| Perform rehabilitation to extend EEL for 10% of inspected sewers over 10 years. | \$ 647,000   | Replace every 150 years.   | \$ 2,439,000 | \$ 3,495,000 |
|   |              | Replace every 100 years.   | \$ 1,000     | \$ 1,200     |
| Replace 15% of assets that have reached end of EEL over 10 years.               | \$ 14,000    | Replace every 100 years.   | \$ 560,000   | \$ 1,237,000 |
| Stabilize bank and erosion control at 5% of assets each cycle.                  | \$ 1,200     | Replace every 150 years.   | \$ 12,000    | \$ 107,200   |
|   |              | Facility renovation every 100 years. Includes regrading, seeding, renew inlet/outlet structures. | \$ 11,300    | \$ 17,800    |
| Clean 20% of all assets annually.   | \$ 43,000    | Replace every 150 years.   | \$ 11,000    | \$ 63,700    |

|  |  |            |  |            |
|--|--|------------|--|------------|
| <b>Total</b>   |  | \$ 793,400 |  | \$ 389,000 |
| <b>O&amp;M (inspection, corrective and preventative maintenance)</b> |  |            |  |            |
| <b>Capital Renewal (system renewal)</b>                              |  |            |  |            |

LOS "A" (Advanced)

| Asset Type   | Inspection   |              | Corrective Maintenance  |              |
|--|--|--------------|---|--------------|
|  | Activities & Frequencies   | Cost Summary | Activities & Frequencies  | Cost Summary |
| <b>Gravity Mains</b>   | PACP CCTV inspect system over 10-year period.  | \$ 482,000   | Replace 50% of assets that have reached end of EEL over 10 years. | \$ 996,000   |
| <b>Force Mains</b>   | Visual inspection every 2 weeks during pump station inspection. PACP CCTV inspect every 5 years.             | \$ 500       |   |              |
| <b>Catch Basins</b>  | Clean and inspect 50% annually (Approx. 8527). Record and monitor debris levels for cleaning prioritization. | \$ 1,276,500 | Replace 50% of assets that have reached end of EEL over 10 years. | \$ 80,000    |
| <b>Outfalls</b>  | Inspect all outfall points every 3 years to satisfy MS4 requirements.  | \$ 47,000    | Replace top 10% by POF each cycle.                                | \$ 142,000   |
| <b>Detention Basins</b>  | Complete site inspection 3 times annually including routine maintenance.                                     | \$ 6,500     |   |              |
| <b>Culverts</b>  | CCTV/walk/inspect all culverts annually.   | \$ 19,300    | Replace/rehabilitate top 10% by POF.                              |              |
| <b>Total</b>   |  | \$ 1,831,800 |   | \$ 1,218,000 |
| <b>O&amp;M (inspection, corrective and preventative maintenance)</b> |  |              |   |              |
| <b>Capital Renewal (system renewal)</b>                              |  |              |   |              |

|  |            |  |              |              |
|--|------------|--|--------------|--------------|
|  | \$ 705,200 |  | \$ 3,034,300 | \$ 4,921,900 |
|  |            |  |              | \$ 1,887,600 |
|  |            |  |              | \$ 3,034,300 |

| Preventative Maintenance  |              | Replacement   |              | Total         |
|---|--------------|---|--------------|---------------|
| Activities & Frequencies  | Cost Summary | Activities & Frequencies  | Cost Summary |               |
| Perform rehabilitation to extend EEL for 10% of inspected sewers over 10 years.       | \$ 3,252,000 | Replace every 100 years.  | \$ 8,388,000 | \$ 13,118,000 |
|   |              | Replace every 75 years.   | \$ 1,800     | \$ 2,300      |
| Perform rehabilitation to extend EEL for 10% of inspected catch basins over 10 years. | \$ 94,000    | Replace every 50 years.   | \$ 1,119,000 | \$ 2,569,500  |
| Stabilize bank and erosion control at 15% of assets each cycle.                       | \$ 27,000    | Replace every 100 years.  | \$ 1,700     | \$ 217,700    |
|   |              | Facility renovation every 50 years. Includes regrading, seeding, renew inlet/outlet structures. | \$ 22,500    | \$ 29,000     |
|   | \$ 86,000    | Replace every 100 years.  | \$ 17,000    | \$ 122,300    |
|   | \$ 3,459,000 |   | \$ 9,550,000 | \$ 16,058,800 |
|   |              |   |              | \$ 6,508,800  |
|   |              |   |              | \$ 9,550,000  |



Baseline LOS

| Asset Type           | Activity Type            | Activity                 | Asset Units         | Quantity of Assets | Personnel | Labor Rate | Hours    | Labor Cost  | Equipment, Materials, Services | Unit  | Quantity | Unit Cost | Cost        | Total Cost per Activity | Times Performed Annually | Annual Cost  | Annual Activity type cost |              |
|----------------------|--------------------------|--------------------------|---------------------|--------------------|-----------|------------|----------|-------------|--------------------------------|-------|----------|-----------|-------------|-------------------------|--------------------------|--------------|---------------------------|--------------|
| Gravity Mains        | Inspection               | Visual Inspection        | Linear Feet         | 25                 | Worker 1  | \$ 18.50   | 4        | \$ 74.00    | Truck                          | miles | 50       | \$ 0.54   | \$ 27.00    | \$ 175.00               | 52                       | \$ 9,100.00  |                           |              |
|                      |                          |                          |                     |                    | Worker 1  | \$ 18.50   | 4        | \$ 74.00    |                                |       |          |           | \$ -        |                         |                          |              |                           |              |
|                      |                          | Visual Inspection        | Linear Feet         | 25                 | Worker 1  | \$ 18.50   | 8        | \$ 148.00   | Truck                          | miles | 50       | \$ 0.54   | \$ 27.00    | \$ 723.00               | 24                       | \$ 17,352.00 |                           |              |
|                      |                          |                          |                     |                    | Equipment | \$ 25.00   | 8        | \$ 200.00   | CCTV Camera Rental             | days  | 1        | \$ 200.00 | \$ 200.00   |                         |                          |              |                           | \$ -         |
|                      | Preventative Maintenance | Hydro Jetting            | Linear Feet         | 250                | Worker 1  | \$ 18.50   | 8        | \$ 148.00   | Truck                          | miles | 50       | \$ 0.54   | \$ 27.00    | \$ 1,123.00             | 12                       | \$ 13,476.00 | \$ 13,476.00              |              |
|                      |                          |                          |                     |                    | Worker 1  | \$ 18.50   | 8        | \$ 148.00   | Hydro-Jet Machine              | Hours | 8        | \$ 100.00 | \$ 800.00   |                         |                          |              |                           | \$ -         |
|                      |                          | Corrective Maintenance   | Failed Asset Repair | Linear Feet        | 5         | Worker 1   | \$ 18.50 | 80          | \$ 1,480.00                    | Truck | miles    | 50        | \$ 0.54     | \$ 27.00                | \$ 6,987.00              | 10           |                           | \$ 69,870.00 |
|                      |                          |                          |                     |                    |           | Worker 1   | \$ 18.50 | 80          | \$ 1,480.00                    |       |          |           |             | \$ -                    |                          |              |                           |              |
|                      | Welder                   |                          |                     |                    |           | \$ 50.00   | 80       | \$ 4,000.00 |                                |       |          |           | \$ -        |                         |                          |              |                           |              |
|                      | System Renewal           | Failed Asset Replacement | Linear Feet         | 100                | Worker 1  | \$ 18.50   | 80       | \$ 1,480.00 | Truck                          | miles | 50       | \$ 0.54   | \$ 27.00    | \$ 17,064.00            | 1                        | \$ 17,064.00 | \$ 17,064.00              |              |
|                      |                          |                          |                     |                    | Worker 1  | \$ 18.50   | 80       | \$ 1,480.00 | Semi Truck                     | miles | 50       | \$ 1.54   | \$ 77.00    |                         |                          |              |                           | \$ -         |
|                      |                          |                          |                     |                    | Welder    | \$ 50.00   | 80       | \$ 4,000.00 | Crane                          | Hours | 20       | \$ 500.00 | \$10,000.00 |                         |                          |              |                           | \$ -         |
|                      | Catch Basins             |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           | \$ -         |
|                      | Outfalls                 |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Detention Basins     |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Culverts             |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Laterals             |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Open Channels        |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Ditches              |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Pressurized Mains    |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Siphons              |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Manholes             |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Pumps                |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Bed Filter           |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Dry Basin            |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Infiltration Basin   |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Media Filter         |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Treatment Vault      |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Wet Basin            |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Biostrip             |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Biofiltration        |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Bioretention         |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Bioswale             |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Infiltration Feature |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Porous Pavement      |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Settling Basin       |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| Green Street         |                          |                          |                     |                    |           |            |          |             |                                |       |          |           |             |                         |                          |              |                           |              |
| End                  | End                      | End                      | End                 | End                | End       | End        | End      | End         | End                            | End   | End      | End       | End         | End                     |                          |              | \$ -                      |              |

**Category #**

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**Activities**

Construction Site Stormwater Runoff Control

Illicit Discharge Detection and Elimination

Industrial and Commercial Management

Pollution Prevention/Good Housekeeping for Municipal Operations

Post Construction Stormwater Management for New/Re-Development

Public Education, Outreach, Involvement, and Participation

Water Quality Monitoring

Overall Stormwater Program Management

Long-Term Planning (e.g., Trash Amendment, TMDL Compliance, Watershed Management Coordination)

**Subtotal**

Yr 2 costs and beyond are based on assumed inflation factor:

Assumes Current year is:

| <b>2018</b>                 | <b>2019</b>       | <b>2020</b>       | <b>2021</b>       | <b>2022</b>       | <b>2023</b>       | <b>2024</b>       | <b>2025</b>       |
|-----------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| <b>Current Annual Costs</b> | <b>Yr 1 Costs</b> | <b>Yr 2 Costs</b> | <b>Yr 3 Costs</b> | <b>Yr 4 Costs</b> | <b>Yr 5 Costs</b> | <b>Yr 6 Costs</b> | <b>Yr 7 Costs</b> |
| \$34,536                    | \$35,572          | \$36,639          | \$37,738          | \$38,870          | \$40,036          | \$41,238          | \$42,475          |
| \$28,350                    | \$29,201          | \$30,077          | \$30,979          | \$31,908          | \$32,865          | \$33,851          | \$34,867          |
| \$37,966                    | \$39,105          | \$40,278          | \$41,486          | \$42,731          | \$44,013          | \$45,333          | \$46,693          |
| \$587,125                   | \$604,739         | \$622,881         | \$641,567         | \$660,814         | \$680,639         | \$701,058         | \$722,090         |
| \$15,381                    | \$15,842          | \$16,318          | \$16,807          | \$17,311          | \$17,831          | \$18,366          | \$18,917          |
| \$5,320                     | \$5,480           | \$5,644           | \$5,813           | \$5,988           | \$6,167           | \$6,352           | \$6,543           |
| \$160,000                   | \$164,800         | \$169,744         | \$174,836         | \$180,081         | \$185,484         | \$191,048         | \$196,780         |
| \$30,720                    | \$31,642          | \$32,591          | \$33,569          | \$34,576          | \$35,613          | \$36,681          | \$37,782          |
| \$150,000                   | \$154,500         | \$159,135         | \$163,909         | \$168,826         | \$173,891         | \$179,108         | \$184,481         |

**\$1,049,398 \$1,080,880 \$1,113,306 \$1,146,705 \$1,181,106 \$1,216,540 \$1,253,036 \$1,290,627**

3%  
2018

| <b>2026</b>        | <b>2027</b>        | <b>2028</b>        | <b>2029</b>        | <b>2030</b>        | <b>2031</b>        | <b>2032</b>        | <b>2033</b>        | <b>2034</b>        |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>Yr 8 Costs</b>  | <b>Yr 9 Costs</b>  | <b>Yr 10 Costs</b> | <b>Yr 11 Costs</b> | <b>Yr 12 Costs</b> | <b>Yr 13 Costs</b> | <b>Yr 14 Costs</b> | <b>Yr 15 Costs</b> | <b>Yr 16 Costs</b> |
| \$43,749           | \$45,061           | \$46,413           | \$47,806           | \$49,240           | \$50,717           | \$52,238           | \$53,806           | \$55,420           |
| \$35,913           | \$36,990           | \$38,100           | \$39,243           | \$40,420           | \$41,633           | \$42,882           | \$44,168           | \$45,493           |
| \$48,094           | \$49,537           | \$51,023           | \$52,554           | \$54,130           | \$55,754           | \$57,427           | \$59,150           | \$60,924           |
| \$743,752          | \$766,065          | \$789,047          | \$812,718          | \$837,100          | \$862,213          | \$888,079          | \$914,722          | \$942,163          |
| \$19,484           | \$20,069           | \$20,671           | \$21,291           | \$21,930           | \$22,588           | \$23,265           | \$23,963           | \$24,682           |
| \$6,739            | \$6,941            | \$7,150            | \$7,364            | \$7,585            | \$7,813            | \$8,047            | \$8,288            | \$8,537            |
| \$202,683          | \$208,764          | \$215,027          | \$221,477          | \$228,122          | \$234,965          | \$242,014          | \$249,275          | \$256,753          |
| \$38,915           | \$40,083           | \$41,285           | \$42,524           | \$43,799           | \$45,113           | \$46,467           | \$47,861           | \$49,297           |
| \$190,016          | \$195,716          | \$201,587          | \$207,635          | \$213,864          | \$220,280          | \$226,888          | \$233,695          | \$240,706          |
| <b>\$1,329,346</b> | <b>\$1,369,226</b> | <b>\$1,410,303</b> | <b>\$1,452,612</b> | <b>\$1,496,190</b> | <b>\$1,541,076</b> | <b>\$1,587,308</b> | <b>\$1,634,928</b> | <b>\$1,683,975</b> |

| <b>2035</b>        | <b>2036</b>        | <b>2037</b>        | <b>2038</b>        |
|--------------------|--------------------|--------------------|--------------------|
| <b>Yr 17 Costs</b> | <b>Yr 18 Costs</b> | <b>Yr 19 Costs</b> | <b>Yr 20 Costs</b> |
| \$57,082           | \$58,795           | \$60,559           | \$62,375           |
| \$46,858           | \$48,264           | \$49,712           | \$51,203           |
| \$62,752           | \$64,635           | \$66,574           | \$68,571           |
| \$970,428          | \$999,541          | \$1,029,527        | \$1,060,413        |
| \$25,422           | \$26,185           | \$26,971           | \$27,780           |
| \$8,793            | \$9,057            | \$9,329            | \$9,609            |
| \$264,456          | \$272,389          | \$280,561          | \$288,978          |
| \$50,775           | \$52,299           | \$53,868           | \$55,484           |
| \$247,927          | \$255,365          | \$263,026          | \$270,917          |
| <b>\$1,734,495</b> | <b>\$1,786,529</b> | <b>\$1,840,125</b> | <b>\$1,895,329</b> |

**Construction Site Stormwater Runoff Control**

| Cost Items                                 | Labor Costs |                           |
|--|-------------|---------------------------|
|  | # FTE       | Salary + Fringe + Accrual |
| Labor - Contracted inspectors              |             |                           |
| Labor - City Engineering Technician        | 0.050       | \$ 60,000.00              |
| Labor - City Code Enforcement Supervisor   | 0.050       | \$ 110,000.00             |
| Labor - City Community Enhancement Officer | 0.020       | \$ 82,000.00              |
| Labor - City staff 4                       | 0.010       | \$ 240,000.00             |
| Labor - Student interns                    |             |                           |
| Labor - Stormwater staff                   |             |                           |
| Materials                                  |             |                           |
| Equipment                                  |             |                           |
| Travel                                     |             |                           |
| Training                                   |             |                           |
| Other                                      |             |                           |
|  |             |                           |
|  |             |                           |
|  |             |                           |
|  |             |                           |

**Totals**

#### **Typical Activities**

Develop/update BMP handbook(s)/resources

Issue grading permits

SWPPP reviews

Issue of enforcement actions

Send winterization letters (to property owners with active construction sites to remind contractors to prepare their construction sites for the rainy season and to submit winterization certifications)

Develop/maintain database to track inspections and enforcement actions (for private development construction sites)

#### **Assumptions and Reference**





| Funding Source |
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## Illicit Discharge Detection and Elimination

| Cost Items                                   | Labor Costs |                           |
|--|-------------|---------------------------|
|  | # FTE       | Salary + Fringe + Accrual |
| Labor - Contracted Inspectors                |             |                           |
| Labor - City Engineering Technician          | 0.04        | \$ 63,000.00              |
| Labor - City Public Works Project Supervisor | 0.05        | \$ 135,000.00             |
| Labor - City Code Enforcement Supervisor     | 0.1         | \$ 110,000.00             |
| Labor - City Community Enhancement Officer   | 0.075       | \$ 82,000.00              |
| Labor - Student interns                      |             |                           |
| Labor - Stormwater staff                     |             |                           |
| Materials                                    |             |                           |
| Equipment                                    |             |                           |
| Travel                                       |             |                           |
| Training                                     |             |                           |
| Other  |             |                           |
|  |             |                           |
|  |             |                           |
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**Totals**

#### Typical Activities

Investigate calls reporting potential illicit discharge  
Issue enforcement actions

#### Assumptions and Reference



| Funding Source |
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| Cost Items                                 | Labor Costs |                           |
|--|-------------|---------------------------|
|  | # FTE       | Salary + Fringe + Accrual |
| Labor - Contracted Inspectors              |             |                           |
| Labor - City Code Enforcement Supervisor   | 0.1         | \$ 110.00                 |
| Labor - City Community Enhancement Officer | 0.07        | \$ 82,000.00              |
| Labor - City Public Works Director         | 0.004       | \$ 245,000.00             |
| Labor - City staff 4                       |             |                           |
| Labor - Student interns                    |             |                           |
| Labor - Stormwater staff                   |             |                           |
| Materials                                  |             |                           |
| Equipment                                  |             |                           |
| Travel                                     |             |                           |
| Training                                   |             |                           |
| Other                                      |             |                           |
|  |             |                           |
|  |             |                           |
|  |             |                           |
|  |             |                           |

**Totals**

#### Typical Activities

Conduct inspections  
 Develop/update BMP handbook(s)/resources  
 Issue enforcement actions

#### Assumptions and Reference





| Funding Source |
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**Pollution Prevention/Good Housekeeping for Municipal Operations**

| Cost Items  | Labor Costs |                           |
|---|-------------|---------------------------|
|   | # FTE       | Salary + Fringe + Accrual |
| Street sweeping   |             |                           |
| Labor - maintenance staff                                 |             |                           |
| Labor - student interns                                   |             |                           |
| Labor - stormwater staff                                  |             |                           |
| Materials   |             |                           |
| Equipment   |             |                           |
| Travel  |             |                           |
| Training  |             |                           |
| Other   |             |                           |
| Drainage System Maintenance                               |             |                           |
| Catch Basin Cleaning - Senior Maintenance Worker 1        | 0.535       | \$ 75,000.00              |
| Catch Basin Cleaning - Senior Maintenance Worker 2        | 0.535       | \$ 80,000.00              |
| Labor - student interns                                   |             | .                         |
| Labor - stormwater staff                                  |             |                           |
| Materials   |             |                           |
| Equipment   |             |                           |
| Travel  |             |                           |
| Training  |             |                           |
| Other   |             |                           |
| Pollution Prevention                                      |             |                           |
| Labor - maintenance staff                                 |             |                           |
| Labor - student interns                                   |             |                           |
| Labor - stormwater staff                                  |             |                           |
| Materials   |             |                           |
| Equipment   |             |                           |
| Travel  |             |                           |
| Training  |             |                           |
| Other   |             |                           |
| Pump Station Cleaning                                     |             |                           |
| Labor - maintenance staff                                 |             |                           |
| Labor - student interns                                   |             |                           |
| Labor - stormwater staff                                  |             |                           |
| Materials   |             |                           |
| Equipment   |             |                           |
| Travel  |             |                           |
| Training  |             |                           |
| Other   |             |                           |
| Public Facility Maintenance and BMPs for Field Activities |             |                           |







|                           |  |  |
|---------------------------|--|--|
| Labor - maintenance staff |  |  |
| Labor - student interns   |  |  |
| Labor - stormwater staff  |  |  |
| Materials                 |  |  |
| Equipment                 |  |  |
| Travel                    |  |  |
| Training                  |  |  |
| Other                     |  |  |
|                           |  |  |
| Total                     |  |  |

Typical Activities

- Street sweeping
- Drainage system maintenance
- Pollution prevention
- Pump station cleaning
- Public facility maintenance

Assumptions and Reference



|               |  |  |  |      |               |
|---------------|--|--|--|------|---------------|
|               |  |  |  |      | \$ -          |
|               |  |  |  |      | \$ -          |
| \$ 3,000.00   |  |  |  |      | \$ 3,000.00   |
|               |  |  |  |      | \$ -          |
|               |  |  |  |      | \$ -          |
|               |  |  |  |      | \$ -          |
| \$ 1,200.00   |  |  |  |      | \$ 1,200.00   |
| \$ -          |  |  |  |      | \$ -          |
| \$ -          |  |  |  |      | \$ -          |
| \$ 587,125.00 |  |  |  | \$ - | \$ 587,125.00 |

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**Post Construction Stormwater Management for New/Re-Development**

| Cost Items                                   | Labor Costs |                           |
|--|-------------|---------------------------|
|  | # FTE       | Salary + Fringe + Accrual |
| Labor - Contracted Inspectors                |             |                           |
| Labor - City Civil Engineering Assistant     | 0.092       | \$ 70,000.00              |
| Labor - City Public Works Project Supervisor | 0.0115      | \$ 134,000.00             |
| Labor - Student interns                      |             |                           |
| Labor - Contracted Stormwater staff          |             |                           |
| Materials                                    |             |                           |
| Equipment                                    |             |                           |
| Travel                                       |             |                           |
| Training                                     |             |                           |
| Other  |             |                           |
|  |             |                           |
|  |             |                           |
|  |             |                           |
|  |             |                           |

Totals

#### Typical Activities

Develop/update BMP handbook(s)/resources  
Review plans and issue permits  
Issue enforcement actions  
Develop/maintain database to track new infrastructure

#### Assumptions and Reference



| Funding Source |
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**Public Education, Outreach, Involvement, and Participation**

| Cost Items                               | Labor Costs |                           |
|--|-------------|---------------------------|
|  | # FTE       | Salary + Fringe + Accrual |
| Labor - Student interns                  |             |                           |
| Labor - Contracted stormwater staff      |             |                           |
| Labor - City Code Enforcement Supervisor | 0.024       | \$ 105,000.00             |
| Materials                                |             |                           |
| Equipment                                |             |                           |
| Travel                                   |             |                           |
| Fees                                     |             |                           |
| Training                                 |             |                           |
| Other                                    |             |                           |
|  |             |                           |
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|  |             |                           |
|  |             |                           |
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Totals

#### Typical Activities

Developing Integrated Pest Management (IPM)  
 Television  
 Radio  
 Billboard  
 Newspaper  
 Mailings  
 Participation in public events  
 Grants  
 Project development  
 Agriculture outreach  
 Pet outreach  
 Elementary education

#### Assumptions and Reference





| Funding Source |
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**Water Quality Monitoring**

| Cost Items                              | # FTE |
|---|-------|
| Labor - student intern                  |       |
| Labor - stormwater staff                |       |
| Materials                               |       |
| Equipment                               |       |
| Travel                                  |       |
| Regional/State program fees             |       |
| QAPP/SAP preparation                    |       |
| Sample collection                       |       |
| Sample laboratory analysis              |       |
| Third party modeling/analysis/reporting |       |
| Training                                |       |
| Other:                                  |       |
|   |       |
|   |       |
|   |       |
|   |       |
|   |       |
| <b>Totals</b>                           |       |

#### Typical Activities

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QAPP/SAP preparation  
Sample collection  
Sample laboratory analysis  
Data analysis and reporting  
Fee paid for joint monitoring effort conducted by Watershed Group

| Labor Costs               |               | Miscellaneous Costs |           |            |                    | Total Cost    |
|---------------------------|---------------|---------------------|-----------|------------|--------------------|---------------|
| Salary + Fringe + Accrual | Labor Cost    | Units               | Cost/Unit | # of Units | Miscellaneous Cost |               |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           | \$ 160,000.00 |                     |           |            |                    | \$ 160,000.00 |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           |               |                     |           |            |                    | \$ -          |
|                           | \$ 160,000.00 |                     |           |            | \$ -               | \$ 160,000.00 |

# Assumptions and References

| Existing Funding | Funding Source |
|------------------|----------------|
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| \$ -             |                |

**Overall Stormwater Program Management**

| Cost Items  | Labor Costs |                           |
|---|-------------|---------------------------|
|   | # FTE       | Salary + Fringe + Accrual |
| Labor - Student interns                           |             |                           |
| Labor - Contracted stormwater staff               |             |                           |
| Labor - City Public Works Director                | 0.028       | \$ 240,000.00             |
| Materials   |             |                           |
| Equipment   |             |                           |
| Travel  |             |                           |
| Fees  |             |                           |
| Professional Organization fees (e.g. CASQA, ASCE) |             |                           |
| NPDES fees  |             |                           |
| Legal fees  |             |                           |
| Training  |             |                           |
| Other   |             |                           |
|   |             |                           |
|   |             |                           |
|   |             |                           |
|   |             |                           |

**Totals**

#### Typical Activities

Program Effectiveness Assessment  
Annual Reporting  
Permit compliance administration

#### Assumptions and Reference





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**Long-Term Planning (e.g., Trash Amendment, TMDL Compliance, Watershed Management Coordination)**

| Cost Items                             | # FTE |
|--|-------|
| Labor - Student interns                |       |
| Labor - Contracted Stormwater staff    |       |
| Materials                              |       |
| Equipment                              |       |
| Travel                                 |       |
| Fees                                   |       |
| Training                               |       |
| Project 1 - Catch basin retrofits      |       |
| Project 2 - 30% design for Cortez Park |       |
| Project 3                              |       |
| etc.                                   |       |
| Other                                  |       |
|  |       |
|  |       |
|  |       |
|  |       |
| Totals                                 |       |

#### Typical Activities

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Program coordination/administration  
 Planning/Design/Permitting of Infrastructure  
 Operation and maintenance of infrastructure

| Labor Costs               |               | Miscellaneous Costs |             |            |                    | Total Cost    |
|---------------------------|---------------|---------------------|-------------|------------|--------------------|---------------|
| Salary + Fringe + Accrual | Labor Cost    | Units               | Cost/Unit   | # of Units | Miscellaneous Cost |               |
|                           |               |                     |             |            |                    | \$ -          |
|                           | \$ 5,000.00   |                     |             |            |                    | \$ 5,000.00   |
|                           |               |                     |             |            |                    | \$ -          |
|                           |               |                     |             |            |                    | \$ -          |
|                           |               |                     |             |            |                    | \$ -          |
|                           |               |                     |             |            |                    | \$ -          |
|                           |               |                     |             |            |                    | \$ -          |
|                           |               | 30                  | \$ 1,500.00 |            | \$ 45,000.00       | \$ 45,000.00  |
|                           | \$ 100,000.00 |                     |             |            |                    | \$ 100,000.00 |
|                           |               |                     |             |            |                    | \$ -          |
|                           |               |                     |             |            |                    | \$ -          |
|                           |               |                     |             |            |                    | \$ -          |
|                           |               |                     |             |            |                    | \$ -          |
|                           |               |                     |             |            |                    | \$ -          |
|                           |               |                     |             |            |                    | \$ -          |
|                           |               |                     |             |            |                    | \$ -          |
|                           |               |                     |             |            |                    | \$ -          |
|                           | \$ 105,000.00 |                     |             |            | \$ 45,000.00       | \$ 150,000.00 |

#### Assumptions and References

| Existing Funding | Funding Source |
|------------------|----------------|
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|                                    | 2018                        |
|------------------------------------|-----------------------------|
| <b>Activities</b>                  | <b>Current Annual Costs</b> |
| EWMP Future Buildouts <sup>1</sup> | \$3,225,000                 |
| Buildout 2                         |                             |
| Buildout 3                         |                             |
| <b>Total</b>                       | <b>\$3,225,000</b>          |

<sup>1</sup> costs taken from XXXX Enhanced Watershed Management Plan (costs for community YYYY only)

Assumes Current year is:

2018

| <b>2019</b>        | <b>2020</b>        | <b>2021</b>         | <b>2022</b>         | <b>2023</b>         | <b>2024</b>         | <b>2025</b>         | <b>2026</b>         | <b>2027</b>         |
|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>Yr 1 Costs</b>  | <b>Yr 2 Costs</b>  | <b>Yr 3 Costs</b>   | <b>Yr 4 Costs</b>   | <b>Yr 5 Costs</b>   | <b>Yr 6 Costs</b>   | <b>Yr 7 Costs</b>   | <b>Yr 8 Costs</b>   | <b>Yr 9 Costs</b>   |
| \$3,644,000        | \$4,062,000        | \$17,538,000        | \$19,119,000        | \$20,701,000        | \$38,158,000        | \$39,646,000        | \$41,134,000        | \$14,801,000        |
| <b>\$3,644,000</b> | <b>\$4,062,000</b> | <b>\$17,538,000</b> | <b>\$19,119,000</b> | <b>\$20,701,000</b> | <b>\$38,158,000</b> | <b>\$39,646,000</b> | <b>\$41,134,000</b> | <b>\$14,801,000</b> |



| <b>2028</b>         | <b>2029</b>         | <b>2030</b>         | <b>2031</b>         | <b>2032</b>         | <b>2033</b>         | <b>2034</b>         | <b>2035</b>         |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>Yr 10 Costs</b>  | <b>Yr 11 Costs</b>  | <b>Yr 12 Costs</b>  | <b>Yr 13 Costs</b>  | <b>Yr 14 Costs</b>  | <b>Yr 15 Costs</b>  | <b>Yr 16 Costs</b>  | <b>Yr 17 Costs</b>  |
| \$14,853,000        | \$14,904,000        | \$14,956,000        | \$15,008,000        | \$15,060,000        | \$15,112,000        | \$15,163,000        | \$15,215,000        |
| <b>\$14,853,000</b> | <b>\$14,904,000</b> | <b>\$14,956,000</b> | <b>\$15,008,000</b> | <b>\$15,060,000</b> | <b>\$15,112,000</b> | <b>\$15,163,000</b> | <b>\$15,215,000</b> |

| 2036         | 2037        | 2038        |
|--------------|-------------|-------------|
| Yr 18 Costs  | Yr 19 Costs | Yr 20 Costs |
| \$15,267,000 | -           | -           |
|              |             |             |
| \$15,267,000 | \$0         | \$0         |